

WHAT IS CLAIMED:

Sub C2
1. A method for effecting transdermal migration of a macromolecule comprising combining a pharmaceutically effective amount of said macromolecule in a pharmaceutical composition with an amount of an essential oil effective to promote transdermal migration of said macromolecule to obtain a mixture of said pharmaceutical composition and applying said mixture of said pharmaceutical composition to an area of skin of a mammal.

2. The method of claim 1, wherein said macromolecule is a complex carbohydrate.

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3. A method for promoting granulation of wounds comprising applying directly to said wound a pharmaceutical composition comprising a pharmacologically active amount of at least one complex carbohydrate and at least one essential oil in an amount effective to provide penetration of the dermis of a mammal of the complex carbohydrate.

4. The method of claim 1, wherein said composition contains the essential oil in a concentration of from 0.5% to 20% vol/vol.

5. The method of claim 2, wherein said composition contains the essential oil in a concentration of from 0.5% to 20% vol/vol.

6. The method of claim 3, wherein said composition contains the essential oil in a concentration of from 0.5% to 20% vol/vol.

7. The method of claim 1, wherein said composition contains the essential oil in a concentration of from 1.0% to 3.0% vol/vol.

8. The method of claim 2, wherein said composition contains the essential oil in a concentration of from 1.0% to 3.0% vol/vol.

9. The method of claim 3, wherein said composition contains the essential oil in a concentration of from 1.0% to 3.0% vol/vol.

10. The method of claim 3, wherein said complex carbohydrate is of low purity or is cosmetic grade.

11. ~~A method for effecting transdermal migration of a pharmaceutical composition comprising applying said pharmaceutical composition to the skin of a mammal, said pharmaceutical composition comprising at least one complex carbohydrate of low purity or cosmetic grade and an essential oil in an amount~~

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effective to provide transdermal migration of said pharmaceutical composition.

12. The method of claim 11, wherein said complex carbohydrate is selected from the group consisting of oligosaccharides, sialylated oligosaccharides, polysaccharides, glycosaminoglycans and mixtures thereof.

13. The method of claim 11, wherein said essential oil is selected from the group consisting of Eucalyptus Oil, Rosemary Oil, Pine Needle Oil, Tea Tree Oil, Wintergreen Oil, Peppermint Oil, Spearmint Oil, Camphor Oil, Sage Oil, Jojoba Oil, Cinnamon Oil, Anise Oil, Lemon Oil, Lime Oil, Orange Oil, Clove Oil, Almond Oil, White Pine Oil, Cardamon Oil, Cedar Leaf oil and mixtures thereof.

14. The method of claim 12, wherein said essential oil is selected from the group consisting of Eucalyptus Oil, Rosemary Oil, Pine Needle Oil, Tea Tree Oil, Wintergreen Oil, Peppermint Oil, Spearmint Oil, Camphor Oil, Sage Oil, Jojoba Oil, Cinnamon Oil, Anise Oil, Lemon Oil, Lime Oil, Orange Oil, Clove Oil, Almond Oil, White Pine Oil, Cardamon Oil, Cedar Leaf oil and mixtures thereof.

15. The method of ~~claim 11~~, wherein said complex carbohydrate is selected from the group consisting of a glycosaminoglycan and a mannan.

16. The method of ~~claim 15~~, wherein said glycosaminoglycan is selected from the group consisting of hyaluronic acid, heparin, heparin sulfate, chondroitin sulfate, polysulfated glycosaminoglycan and keratan sulfate.

17. The method of ~~claim 11~~, wherein said complex carbohydrate comprises a mixture of complex carbohydrates of different molecular weight ranges.

18. The method of ~~claim 11~~, wherein said complex carbohydrate comprises a mixture of a high molecular weight complex carbohydrate and a low molecular weight complex carbohydrate.

19. The method of ~~claim 18~~, wherein the high molecular weight and low molecular weight complex carbohydrate differ by chemical structure.

20. The method of claim 18, wherein said high molecular weight and low molecular weight complex carbohydrates have the same complex carbohydrate structure, but are of two different ranges of molecular weight.

21. The method of claim ~~11~~, wherein said complex carbohydrate is in a concentration ranging from 0.1% to 99% wt/vol and said essential oil is in a concentration from 0.5% to 20% vol/vol.

22. The method of claim ~~11~~, wherein said complex carbohydrate is in a concentration ranging from 0.5% to 3.0% wt/vol and said essential oil is in a concentration of between 0.5% and 3.0% vol/vol.

23. The method of claim ~~11~~, wherein said complex carbohydrate is present in a concentration ranging from 0.01% to 5.0% wt/vol and said essential oil is present in a concentration ranging from 0.5% to 10% vol/vol in an Aloe Vera gel concentrate base with a concentration of between 50% and 99% vol/vol.

24. The method of claim ~~11~~, wherein said pharmaceutical composition consists essentially of as an active ingredient a

pharmacologically effective amount of at least one complex carbohydrate selected from the group consisting of a mixture of high and low molecular weight ranges of low purity or cosmetic grade hyaluronic acid in a total concentration of between 0.5% and 3.0% wt/vol and at least one essential oil selected from the group consisting of Tea Tree Oil, Rosemary Oil, Peppermint Oil and Wintergreen Oil in a total concentration of between 0.5% and 3.0% vol/vol.

25. The method of claim 11, wherein said at least one complex carbohydrate has a molecular weight in the range of from 100,000 to 500,000 daltons.

26. The method of claim 11, wherein said at least one complex carbohydrate has a molecular weight in the range of greater than 750,000 daltons.

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